

IMPLICATIONS OF THE CRISIS IN COTTON

Robert S. Firsch

Associate Professor of Marketing

University of Arizona

As I look at the future of the cotton industry, I am impressed by the understanding cotton farmers have of what the future holds for them and what they can do to improve their situation. I certainly cannot, in good conscience, tell these farmers that if they will merely contribute a little more toward research and promotion they will solve all of their problems and be able to make good livings as cotton farmers for the rest of their days. Many of them understand that the tide of history is unmistakably running against the cotton industry in this country. The sooner we accept this economic fact, the sooner we are going to bring our political actions and policies into line with reality.

A series of events has prevented this trend from making itself painfully obvious in a decline in total consumption of U.S.-grown cotton. First, there was the Korean War with its sharp increase in demand for cotton. Following that war, cotton exports began to decline very rapidly, but this decline was arrested by substantial export subsidies and a P.L. 480 program. The record shows that it has been necessary to *increase* almost continuously the rate of subsidy in order to maintain the recent level of exports. I think it is fairly clear that we would not be exporting any cotton today if the effective export price had been maintained at the 1954-55 level.

Recently domestic consumption of cotton has risen to the highest level since 1950-51. On the surface that would seem to suggest a fairly optimistic future for cotton. However, in August 1964, we began to pay a subsidy of 6.5 cents per pound for domestic consumption of cotton. In August 1965, the support price was lowered and the subsidy cut; the net price to domestic cotton mills dropped about another cent per pound. The recent increase in consumption is due in large part to the fact that the effective price of cotton paid by domestic mills has dropped by one-fourth. Another factor contributing to the recent increase in cotton consumption has been the increased number of troops stationed in Viet Nam. Early attempts by the Defense Department to supply these troops with uniforms of man-made fibers were quickly abandoned as the troops demanded all-cotton uniforms for the hot and humid climate. In spite of a drop in the domestic price of cotton by more than one-fourth, a substan-

tial increase in population, and a war in Viet Nam, total domestic cotton consumption is still lower than it was in 1950-51.

Starting in August 1966, the rate of subsidy on cotton—now paid directly to the farmer—was raised to 9.42 cents per pound on cotton that is grown and 10.5 cents for cotton not grown on the allotted acres. This will lower the effective price of U.S. cotton in both domestic and foreign markets by about two cents per pound.

With the sharp reduction in planted acreage under the 1966 cotton program and projected increases in domestic consumption and exports, carryover should decline substantially from the current level by the end of the current four-year program. But, with no further increase in the rate of subsidy, I believe that by the end of the current program exports will be down substantially from the expected level for the 1966 crop; and the rate of domestic consumption will also fall significantly from current levels. I think that cotton farmers will have to get used to the idea of planting no more cotton than they did in 1966.

In the remainder of this paper, I will present the basis for my conclusions. The markets for U.S. cotton will be discussed, and the prospects for research and promotion will be considered.

THE FOREIGN MARKET FOR U.S. COTTON

Table 1 shows the price of U.S. cotton in foreign markets has fallen by more than 30 percent from 1955 to 1965. An additional drop of about two cents per pound is expected in the marketing season that has just begun.

U.S. net exports have shown fantastic fluctuations from year to year. Close examination reveals a definite relationship between the price and level of exports. Foreign users of cotton have always had sufficient warning of future drops in the U.S. export price so that they have been able to cut their imports from the U.S. and reduce stocks to a bare minimum before the price drop and thus avoid a capital loss on cotton in inventory. Following the price drop, foreign buyers expand their purchases dramatically as they build their stocks back to normal operating levels. The drop in net exports for 1965 is directly related to the anticipated drop in price in the 1966 season.

Table 2 shows that foreign cotton production has increased in every year but one since the Korean War. Without the drop in price, foreign production surely would have expanded more rapidly than it has since 1958, and total foreign consumption would not have ex-

TABLE 1. NET EXPORTS FROM THE U.S. AND WORLD PRICE OF
UPLAND COTTON, 1953-65

Year	Net Exports from United States		World Price*	
	Thousand Bales	1962-63 = 100	Cents per Pound	1962-63 = 100
1953	3,760	83.4	38.85	135.7
1954	3,445	76.4	39.60	138.3
1955	2,194	48.7	39.72	138.7
1956	7,540	167.3	33.89	118.3
1957	5,707	126.6	31.54	110.1
1958	2,766	61.4	31.77	110.9
1959	7,178	159.3	28.29	98.8
1960	6,625	147.0	27.78	97.0
1961	4,906	108.9	28.86	100.8
1962	3,348	74.3	29.26	102.2
1963	5,661	125.6	28.01	97.8
1964	4,038	89.6	27.74	96.9
1965	3,000	66.6	27.35	95.5

*Liverpool price of U.S. middling 1 $\frac{3}{8}$ -inch cotton.

SOURCE: *Cotton Situation*, July 1966, and earlier issues.

TABLE 2. FOREIGN PRODUCTION OF COTTON AND MAN-MADE FIBERS AND
TOTAL TEXTILE FIBER CONSUMPTION, 1953-65

Year	Foreign Production of Cotton		Foreign Production of Man-Made Fibers		Foreign Consumption of Total Textile Fibers	
	Thousand Bales	1962-63 = 100	Million Pounds	1962-63 = 100	Million Pounds	1962-63 = 100
1953	22,655	66.4			18,957	67.9
1954	24,938	73.0	3,534	51.6	20,494	73.5
1955	27,999	82.0	4,247	62.0	20,969	75.2
1956	28,890	84.6	4,393	64.1	22,569	80.9
1957	30,551	89.5	4,711	68.8	24,042	86.2
1958	32,938	96.5	4,436	64.8	23,961	85.9
1959	32,007	93.7	5,026	73.4	25,954	93.0
1960	32,908	96.4	5,618	82.0	27,220	97.6
1961	32,922	96.4	5,942	86.8	27,905	100.0
1962	33,425	97.9	6,485	94.7	27,225	97.6
1963	34,848	102.1	7,221	105.4	28,573	102.4
1964	36,710	107.5	8,199	119.7		
1965	37,058	108.5	8,617	125.8		

SOURCES: *Cotton Situation*, July 1966; USDA, *Analysis of Factors Affecting U.S. Cotton Exports*, Agricultural Economics Report No. 90, May 1966.

panded as rapidly as it has. The result would have been a steadily declining quantity of U.S. cotton passing into foreign markets.

Over the period covered by Table 2 production of cotton has expanded at almost exactly the same rate as total consumption of

textile fibers. This means that foreign cotton production has been able to maintain its share of the foreign market in spite of the large reductions in the U.S. export price.

The average share of U.S. cotton in the foreign market has declined steadily in spite of the falling U.S. export price. Although it is seldom mentioned by others, foreign production of man-made fibers appears to me to be fully as important in the decline of our share of the foreign markets as U.S. man-made fiber production is in the domestic market share. Although man-made fibers currently take a much smaller share of the foreign market for textile fibers than in the U.S. market, Table 2 shows that man-made fiber production has been expanding at about twice the annual rate of total fiber consumption.

It appears to me that if the U.S. cotton industry were operating today without government subsidy or restriction of any kind, we would not be exporting any substantial amount of cotton and the world price of cotton would be somewhat higher than it is going to be in the 1966 season. Perhaps we should not feel quite so self-righteous about our foreign aid programs when at the very same time we are probably depressing the incomes of some of these same countries by paying our domestic producers large subsidies in order to maintain our "traditional" level of exports.

THE DOMESTIC MARKET FOR U.S. COTTON

The prospect of a record high carryover of cotton into the 1966-67 marketing season provided the impetus for the enactment of a new cotton program that would cut production below domestic consumption plus exports, and thus reduce carryover. Domestic consumption plus exports exceeded production in only four of the thirteen years from 1953 through 1965 as is shown in Table 3. Under the new program for the 1966 cotton crop, growers have elected to divert over 30 percent of their allotted acres from cotton production, and they will receive direct payments based on the amount of diversion.

What has happened in the domestic market for textile fibers since we started paying the domestic subsidy in August of 1964? In order to avoid possible distortions from the anticipation of the drop in cotton price, I have used the 1962-63 season as the basis for comparison in Table 4.

While the price of cotton to the mills fell by slightly more than one-fourth, the rate of consumption increased by 13 percent. Perhaps

TABLE 3. U.S. PRODUCTION, DOMESTIC CONSUMPTION, AND NET EXPORTS OF UPLAND COTTON, 1953-66

Year Beginning August 1	United States Production	Domestic Consumption	Net Exports	Domestic Consumption Plus Net Exports
<i>Thousand Bales</i>				
1953	16,465	8,475	3,760	12,235
1954	13,697	8,730	3,445	12,175
1955	14,721	9,085	2,194	11,279
1956	13,310	8,496	7,540	16,036
1957	10,964	7,900	5,707	13,607
1958	11,512	8,594	2,766	11,360
1959	14,554	8,879	7,178	16,057
1960	14,272	8,131	6,625	14,756
1961	14,318	8,783	4,906	13,689
1962	14,867	8,258	3,348	11,606
1963	15,334	8,468	5,661	14,129
1964	15,180	9,019	4,038	13,057
1965	14,956	9,400	3,000	12,400
1966	10,800*	9,500*	5,500*	15,000*

* Estimated.

SOURCE: *Cotton Situation*, July 1966, and earlier issues.

TABLE 4. CHANGES IN PRICES TO MILLS AND DAILY RATES OF MILL CONSUMPTION FROM THE 1962-63 SEASON TO THE 1965-66 SEASON

Fiber	Percent Change in Price	Percent Change in Quantity
Cotton	- 25.6	+ 13.0
Rayon and acetate	0	+ 12.6
Noncellulosics	- 26.3	+ 106.2

as much as one-half of the increase in the rate of cotton consumption should be attributed to the war in Viet Nam rather than the reduction in price or cotton promotion or anything else.

During most of the postwar period, the price per pound of rayon has been about the same as the price of cotton. Earlier reductions in cotton prices were usually matched by the rayon producers. But this time they seem to have elected not to follow the cotton price, and the quoted price of rayon was the same in both seasons. With no price reduction, the consumption of rayon and acetate increased almost as much as for cotton. However, the consumption of rayon and acetate actually declined by about 2.5 percent from the 1964-65 season to the 1965-66 season. So it appears that the price reduction on cotton with no price reduction on rayon may be taking a significant slice of what would have been rayon's share of the market.

The noncellulosics have a quoted price per pound to the mills that is three to four times as high as the price of cotton. Table 4 shows that the price reduction for noncellulosics was slightly more than that for cotton. During the three-year period the consumption of noncellulosics more than doubled.

How can we explain this rapid increase in the noncellulosic fiber consumption? It was during this period that blends—such as 65 percent dacron and 35 percent cotton—quickly displaced all-cotton shirts and dresses on the retail store counters. I was startled the first time or two that I asked to see men's dress shirts and the salesman led me to the blend shirts and touted their virtues. I began to suspect that the great enthusiasm for selling the blends was based on a greater suggested percentage retail markup on these shirts by the manufacturer. However, study by the National Cotton Council indicates that the percentage markup is generally the same for shirts made of the various types of fabrics. As paradoxical as it may seem, the higher price of the basic noncellulosic fiber is probably an advantage rather than a disadvantage in its competition with all-cotton garments.

Because of the higher price for the fiber, a blend shirt is more expensive to make than an all-cotton shirt, and the manufacturer prices the shirts accordingly. The retailer applies a standard percentage markup, and the blend shirt goes on the counter at a substantially higher price and greater absolute markup. So, for every blend shirt sold instead of an all-cotton shirt the salesman and the manager of the department increase total dollar sales and the store increases its net. Generous advertising allowances by the man-made fiber producer to the retail store "presell" the customer on the blends, and this adds to the incentive to give the blends more space on the display counter. In this way the blend shirts have literally pushed the all-cotton shirts off the counter.

The man-made fiber producers are just beginning to attack the sheet and pillowcase market with blends. They have not yet gained a beachhead, but it is probably just a matter of time until they dominate this and other major markets that are still essentially all cotton.

The handwriting is on the wall; you cannot sell your product if it is not available to the ultimate buyer. Construction that will substantially increase production capacity for man-made fibers has been started over the last two years. The objective is surely not to build this capacity and let it stand unused.

It is conceivable that we may pass through a phase with the

blends in which cotton and man-made fibers actually interact in the market as economic complements rather than substitutes. But it would be naive to expect that man-made fiber producers will be forever satisfied with 65 percent of the market.

THE COTTON RESEARCH AND PROMOTION ACT

Sometime in the latter part of 1966, cotton growers will vote on a marketing order which would collect one dollar per bale from them to raise money to promote cotton and support research. If the order is approved by the growers, it will not become operational until the 1967 crop.

It has been estimated that in 1965 the expenditure for research, development, and promotion of man-made fibers in the U.S. totaled about \$205 million, while the same items for cotton totaled \$30.5 million. In view of the fact that most growers in the West have for several years voluntarily contributed their one dollar per bale and the sharp reduction in planted acres under the new cotton program, it appears doubtful that the promotion order will add as much as \$7 million.

If a cotton farmer asked me how I think he should vote in the referendum, I would tell him, "Vote for it, but don't expect this one dollar per bale to do anything more than slow the rate of decline in cotton consumption." In general, expenditure on research stands up quite well in cost-benefit analysis. Of course, the shining example is hybrid corn where the direct benefits each year amount to five to seven times the total accumulated research cost from the time work was begun on hybrid corn.

As I read the record of experience from advertising, it appears to me that advertising brings really large returns only on a *new* product that has characteristics which will cause it to sell itself once the consumer has been induced to try it. The permanent-press garments made of blends seem to fall into this category of selling themselves. Except for the "durable press" fabrics, cotton has not changed substantially over the entire course of recorded history.

The additional expenditure for promotion resulting from the marketing order appears to have a very good possibility of proving economically worthwhile in slowing the decline in cotton consumption. But any really big payoff from advertising will not come until processes are developed for all-cotton garments that have the no-iron characteristics of the blends' permanent press without substantially reducing fabric strength and durability as do the processes currently

used for cotton. If this scientific breakthrough is achieved, the expected 1967 advertising budget would be far below the optimum level.

ADJUSTMENTS UNDER THE 1966 COTTON PROGRAM AND REDUCED COTTON ACREAGE

The net income of cotton farmers during the course of the current cotton program, including the direct government payments, will probably not be substantially different from what it was in 1965. However, this is certainly not true of those involved in selling inputs for cotton production or those processing and marketing cotton and the products from cottonseed. Their gross volume of business is a function of planted acres or volume of output. Their net incomes will decline proportionately more than their gross incomes with a drop in volume of business. The firms that service the cotton farm face much larger adjustment problems than the farms.

Total production of upland cotton in Arizona has declined in every year since 1962. With 34 percent of the allotted acres diverted from production in 1966, total production will be down about 40 percent from 1962. In Arizona we are looking into possible cost savings that would result from leaving some of the gins idle. The adjustments called for are more likely to be permanent than temporary.

An eventual threat to the large cotton farmers is the possibility of Congress placing an upper limit on the size of direct payments that can be made to a single farmer. Amendments that would do just that have already been voted on in the Congress, but so far they have been defeated.

PART IV

*Breaking the Poverty
Cycle*

